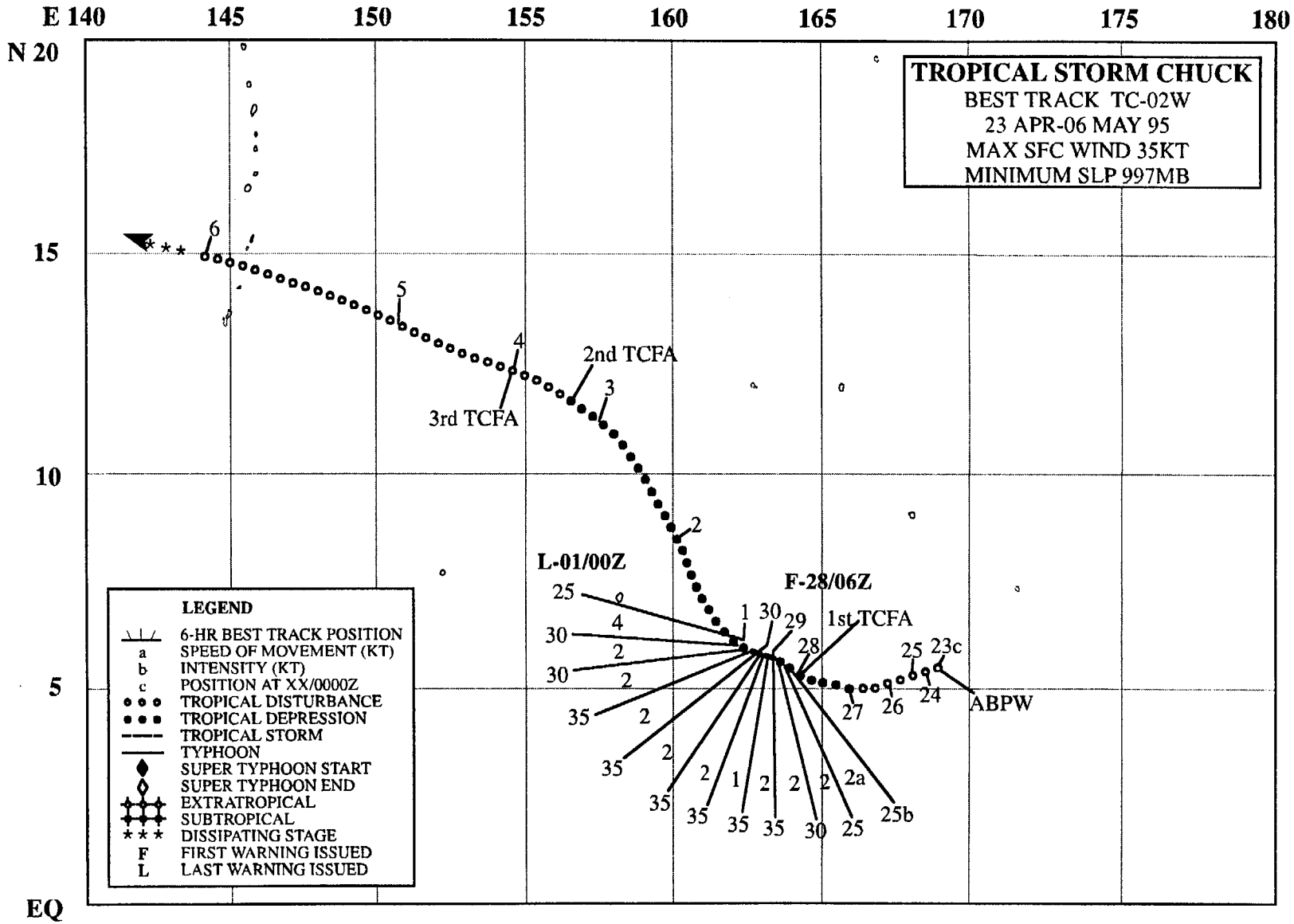
E 140
145
150
155
160
165
170
175
180
N 20
15
10
5
EQ
TROPICAL STORM CHUCK
BEST TRACK TC-02W
23 APR-06 MAY 95
MAX SFC WIND 35KT
MINIMUM SLP 997MB
LEGEND
6-HR BEST TRACK POSITION
a SPEED OF MOVEMENT (KT)
b INTENSITY (KT)
c POSITION AT XX/0000Z
TROPICAL DISTURBANCE
TROPICAL DEPRESSION
TROPICAL STORM
TYPHOON
SUPER TYPHOON START
SUPER TYPHOON END
EXTRATROPICAL
SUBTROPICAL
DISSIPATING STAGE
F FIRST WARNING ISSUED
L LAST WARNING ISSUED
2nd TCFA
3rd TCFA
1st TCFA
L-01/00Z
F-28/06Z
ABPW

TROPICAL STORM CHUCK (02W)

I. HIGHLIGHTS

After Tropical Depression 01W dissipated in January, tropical cyclone activity was confined to the Southern Hemisphere until Tropical Storm Chuck (02W) formed in the Northern Hemisphere during late April. The first named tropical cyclone of 1995 in the western North Pacific basin, Chuck formed in a near-equatorial trough in the Marshall Islands. Chuck was a named tropical cyclone for only two days and peaked at 35 kt (18 m/sec) (Figure 3-02-1). While slowly dissipating, the remnants of Chuck drifted toward the Mariana Islands bringing Guam about one quarter of its rainfall for the month of May, a dry season month.

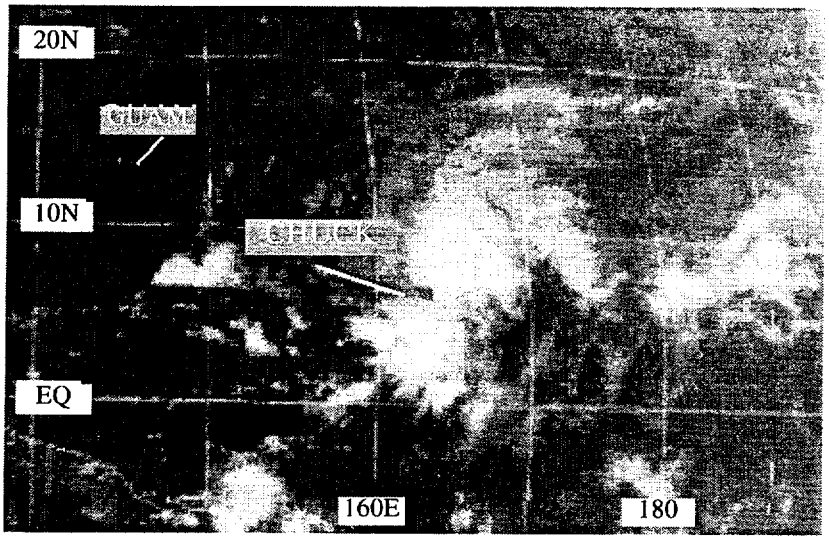

Figure 3-02-1 Tropical Storm Chuck (02W) at peak intensity (291833Z April visible GMS imagery).

II. TRACK AND INTENSITY

Beginning on or about 20 April, low-level westerly monsoonal winds became established along the equator between about 150°E to 170°E. Twin near-equatorial troughs bounded these low-level westerlies, and twin (i.e., one north, and the other south, of the equator) low-level cyclonic circulations persisted equatorward of 10° at about 170°E (e.g., see Figure 3-02-2). This synoptic pattern persisted for several days, and at 230600Z April, an area of deep convection associated with a weak low-level circulation located near 6°N 168°E was first mentioned on JTWC's Significant Tropical Weather Advisory. For several more days, this tropical disturbance drifted slowly westward, and did not show any signs of intensification. On 28 April, satellite data and synoptic reports indicated that the system was intensifying, and a Tropical Cyclone Formation Alert (TCFA) was issued at 272200Z. Remarks on this TCFA included:

"The tropical disturbance near Kosrae in the Marshall Islands has gradually become better organized over the past 24 hours. Synoptic data from Kosrae and the NOAA vessel 'Discoverer' now indicate that a well-defined circulation is present at the surface. The Discoverer reported light winds near the center of the disturbance, but 25 kt [13 m/sec] west-southwesterly sustained winds south of the center . . ."

Based upon these reports and synoptic reports from other ships and islands in the area, and indications on satellite imagery of increased organization of the deep convection, the tropical disturbance near

Kosrae was upgraded to Tropical Depression 02W at 280600Z April. Eighteen hours later, with improved organization observed in satellite imagery, Tropical Depression 02W was upgraded to Tropical Storm Chuck at 290000Z.

At 291200Z, satellite imagery indicated that Chuck was being affected by westerly vertical wind shear, and the low-level circulation center became displaced to the west of the deep convection. The intensity remained at 35 kt (18 m/sec) until 301200Z April, when Chuck was downgraded to a tropical depression. The downgrade to tropical depression was based upon the loss of clear indications from synoptic reports of the existence of a well-defined low-level circulation center, and on evidence from satellite imagery that the deep convection had become displaced even further to the east-northeast of the estimated low-level center position. At 010000Z May, Tropical Depression 02W (Chuck) was completely sheared, with the deep convection displaced 135 nm (250 km) to the east of the very weak low-level circulation center, and a final warning was issued.

For the next six days the remnants of Chuck drifted west northwestward toward the Mariana Islands. At 030600Z, a second TCFA was issued when low-level cloud lines better defined the remnants of Chuck on satellite imagery. The deep convection, however was still displaced well to the east of the low-level circulation center. A third TCFA was issued at 040130Z May in order to adjust the coordinates of the alert area to account for a more westward motion of the tropical disturbance. At 042230Z, the TCFA was cancelled when satellite imagery indicated that the weak low-level circulation center had become further displaced from the deep convection. The remnants of Chuck drifted westward and passed to the north of Guam on 06 May.

III. DISCUSSION

Chuck was the last tropical cyclone to form in the western North Pacific in association with low-level monsoonal winds that were displaced well eastward of normal in association with a waning El Niño event. After Chuck, which first attained an estimated intensity of 25 kt (13 m/sec) at 166°E, no significant tropical cyclones in the western North Pacific basin of monsoon origin would form east of 160°E. Three tropical cyclones — Tropical Depression 22W, Tropical Storm Brian and Tropical Storm Colleen formed east of 160°E, but these were not of monsoon origin.

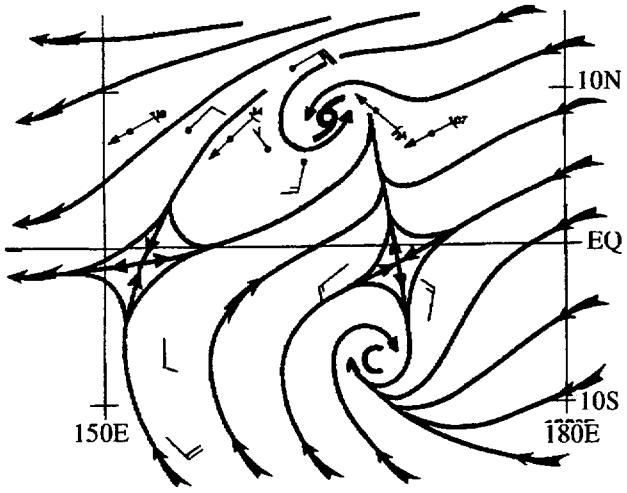

Figure 3-02-2 Surface/gradient streamline analysis for 290000Z April shows Tropical Storm Chuck (02W) and a twin cyclonic circulation to the south. Gradient wind reports are indicated by arrows and surface winds by wind barbs. All reports are in knots.

IV. IMPACT

The passage of Chuck (and later, its remnants) across much of Micronesia did not result in any known incidences of significant damage or injury. On the positive side, the remnants of Chuck contributed some much needed dry season rainfall to some of the Mariana Islands. On the islands of Guam and Rota, 25% (1.5 inches) of May's rainfall occurred during a 24 hour period as the remnants of Chuck neared and passed north of these islands.